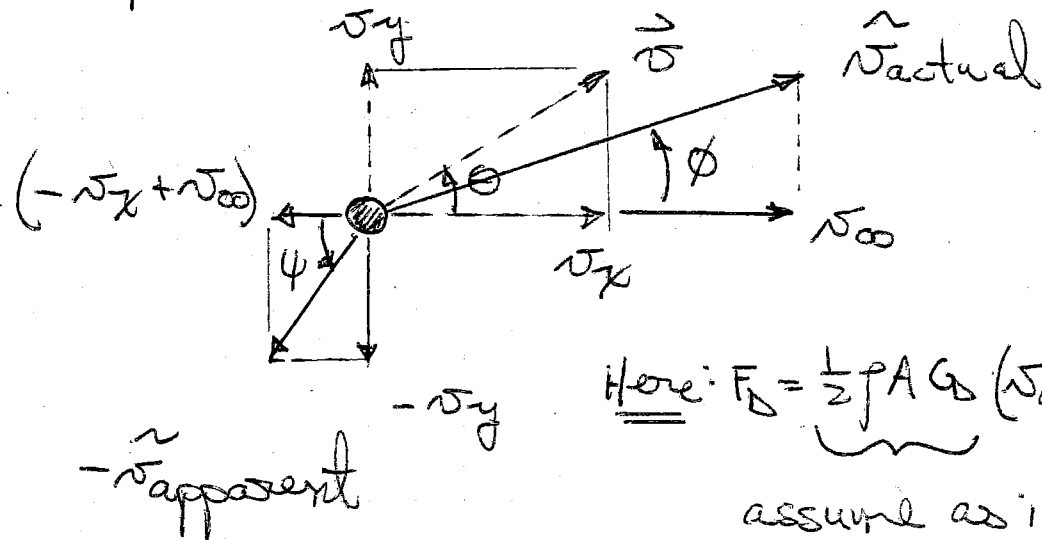


Projectile with tail-wind v_{∞}



air property
parameter values
from NASA for
Sea Level Static conditions
for a "Standard Day"

Temperature = $15^\circ\text{C} = 59^\circ\text{F}$
pressure = 101.3 kN/m^2
= 14.7 psi

$$\rho = 1.229 \text{ kg/m}^3 = 0.00237 \text{ slug/ft}^3$$

$$\mu = 1.73 \times 10^{-5} (\text{N}\cdot\text{sec})/\text{m}^2 = 3.62 \times 10^{-7} (\text{lb}\cdot\text{sec})/\text{ft}^2$$

$$\text{speed of sound} = 761 \text{ miles/hr} = 1100 \text{ ft/sec}$$

Baseball properties:
(nominal, wikipedia.org)

Diameter = 2.9 inches

mass = 5.1 oz = 145 grams
= 0.00994 slugs